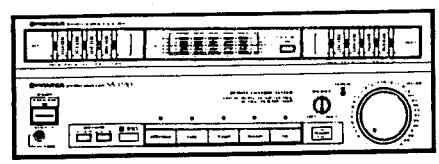
PIONEER®
The future of sound and vision.

Service Manual



ORDER NO.
ARP1556

STEREO AMPLIFIER

SA-1290

MODELS SA-1290S, SA-1290 AND SA-1490S HAVE THREE VERSIONS :

Type	Applicable model			Power requirement	Export destination
	SA-1290S	SA-1290	SA-1490S		
KUC	O	O	O	AC120V only	U.S.A. and Canada
SD	–	O	O	AC110V,120 – 127V,220V,240V (switchable)	Kingdom of Saudi Arabia and General market
SD/G	–	–	O	AC110V,120 – 127V,220V,240V (switchable)	U.S.Military

- **This manual is applicable to the SA-1290/KUC type.**
- **For the SA-1290S/KUC, SA-1290/SD, SA-1490S/KUC, SD and SD/G types, refer to additional service manual (ARP1557).**
- **The difference between the SA-1490S and the SA-1290 are specifications.**
- **The SA-1290S is the same as the SA-1290 except for remote control unit.**

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PIONEER ELECTRONIC CORPORATION

IFI© APR.1988 Printed in Japan

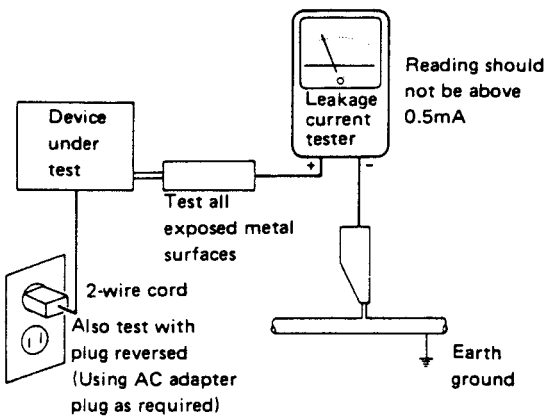
1. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Device under test
Leakage current tester
Reading should not be above 0.5mA
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

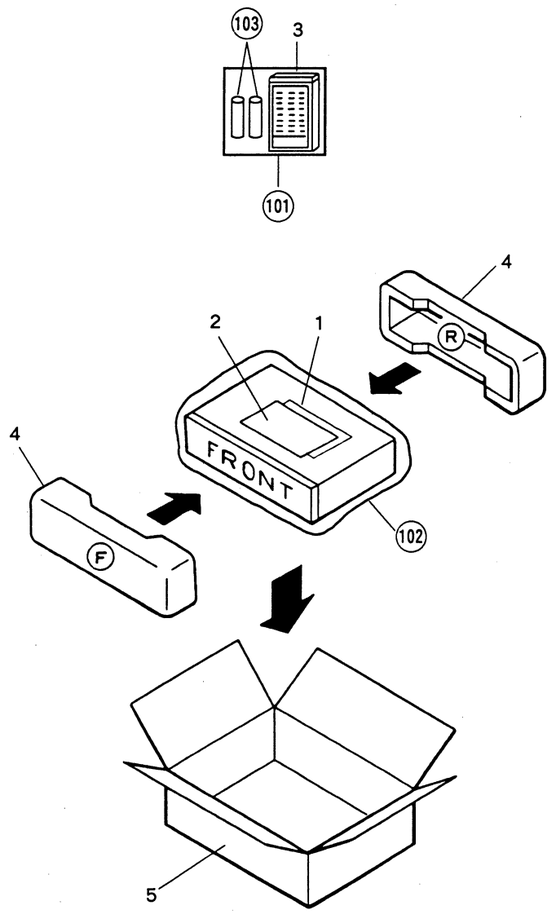
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. PACKING

Parts List

Mark	No.	Part No.	Description
	1	ARB1107	Operating instructions (English)
	2	ARD1006	Operating instructions (For remote control unit)
	3	AXD1048	Remote control unit
	4	AHA1064	Pad
	5	AHD1401	Packing case
	101		Accessory bag
	102		Vinyl sheet
	103		Battery



3. EXPLODED VIEWS AND PARTS LIST

NOTES :
- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List

Mark	No.	Part No.	Description
⚠ ★	1	ATS1075	Power transformer (T1)
⚠	2	AKP-515	AC OUTLETS (3P)
⚠★★	3	AEK-122	Fuse (2A/125V,FU3,FU4)
	4	AAB1060	Rotary knob (BALANCE)
⚠★★	5	AEK-309	Fuse (6.3A/125V,FU1)
	6	AEC-784	Leg assembly
	7	AAB1071	Rotary knob assembly (VOLUME)
	8	AAD1354	Push knob (SPEAKERS)
	9	AAD1335	Muting button
	10	AAD1336	Power button
	11	AAK1459	PVC sheet B
	12	AAK1460	PVC sheet C
	13	AAK1461	PVC sheet D
	14	AAK1462	PVC panel
	15	AMB1345	Front panel assembly
	16	ANE1066	Bonnet case
	17	AEC-510	Nylon rivet
	18	AEP-313	Mica sheet
	19	AAK1463	PVC sheet A
	20	ABA-234	Screw
⚠	21	ADG1031	AC power cord
	22	BBT30P080FZK	Screw
	23	BBZ30P060FZK	Screw
	24	BBZ30P080FMC	Screw
	25	BBZ30P080FZK	Screw
	26	BBZ26P080FMC	Screw
	27	VBZ40P080FMC	Screw
	28	AWZ1728	AF assembly
	29	AWZ1731	CONTROL assembly
★★	30	2SC3281	Q1,Q2 Transistor
★★	31	2SA1302	Q3,Q4 Transistor
	32	NK90FUC	Nut
	101		Chassis
	102		Rear panel
	103		Bottom plate
	104		Trans former frame
	105		Heat sink holder
	106		Heat sink holder
	107		Heat sink
	108		• • • • •
	109		Binder
	110		P.C.B spacer
	111		OUTPUT assembly
	112		SP SW assembly
	113		IC assembly
	114		CONNECTOR assembly
	115		INPUT assembly
	116		VOL assembly
	117		LED assembly
	118		Terminal (GND)
	119		Connection plug with pin jack
	120		Pin grommet

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humidity, etc.
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R assembly
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GND)
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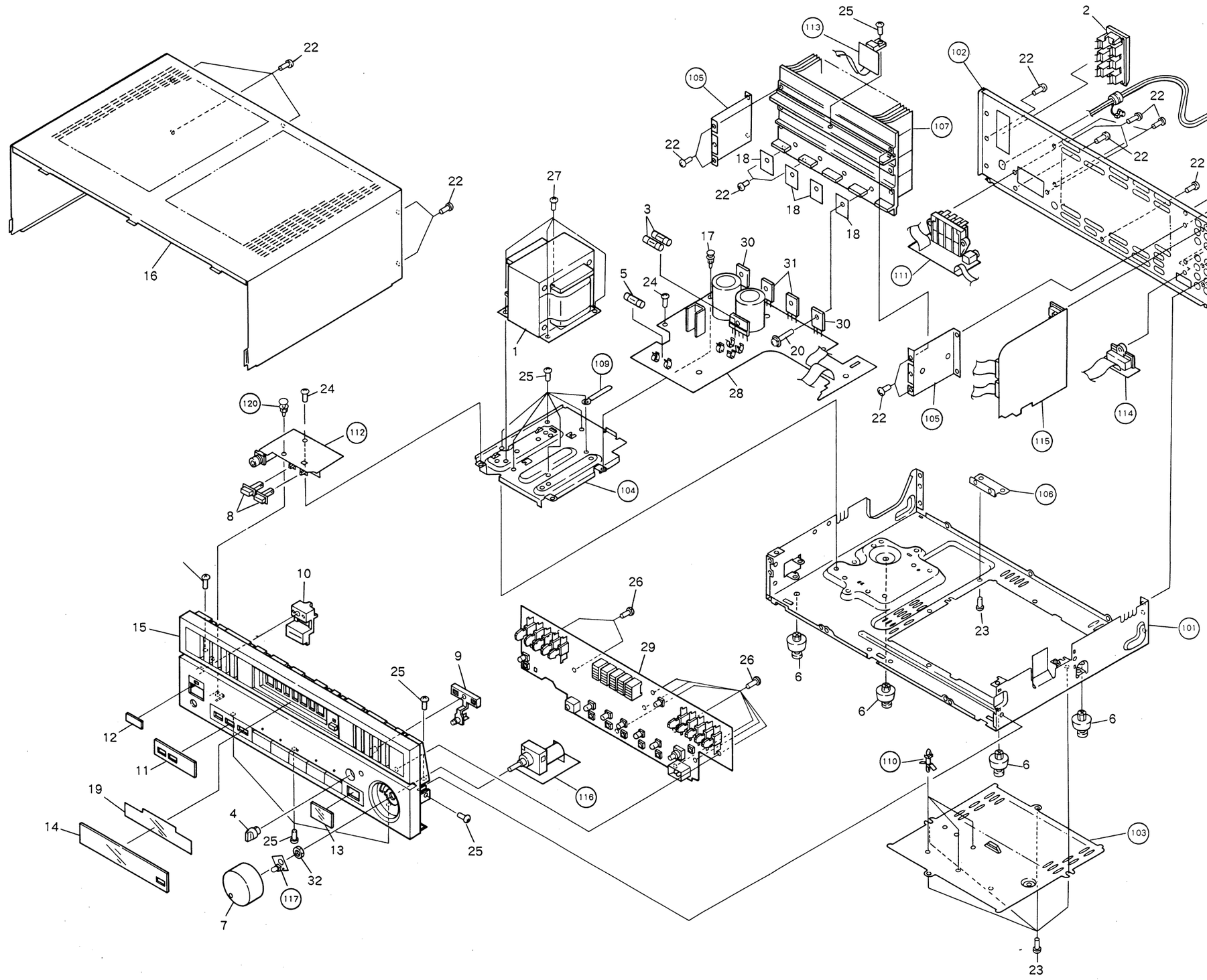


4. SCHEMATIC DIAGRAM

1. RESISTORS :
Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%, (M) ; ±20% tolerance.

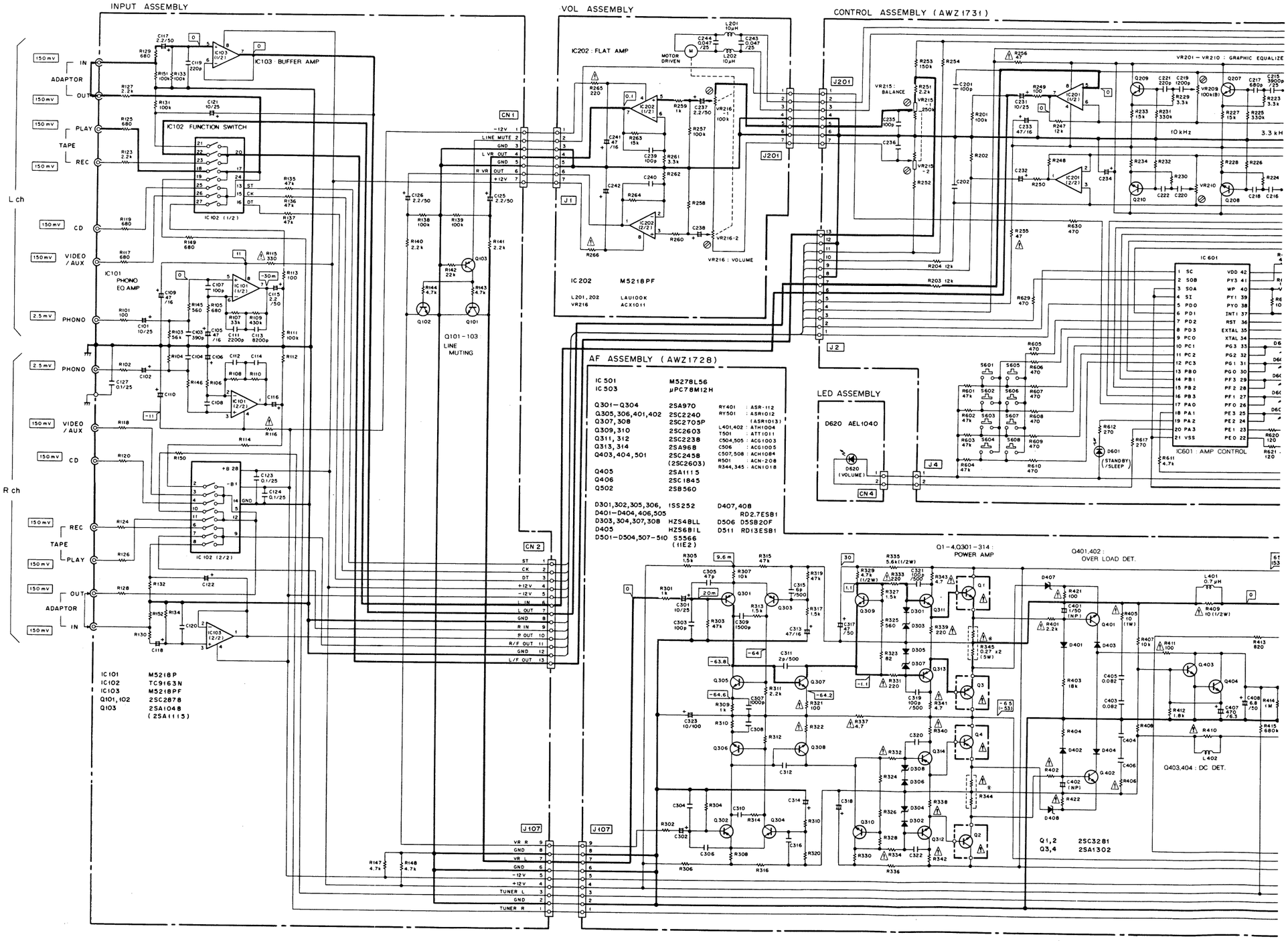
2. CAPACITORS :
Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT :
V ; Signal voltage at 110W+110W, 8Ω output (1kHz).
; DC voltage (V) at no input signal.
Value in ( ) is DC voltage at rated power.
⇦mA ; DC current at no input signal.

4. OTHERS :
➡ ; Signal route.
⊘ ; Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES : (The underlined indicates the switch position)
CONTROL Assembly
S601 : TAPE
S602 : STANDBY/ON
S603 : EQUALIZER
S604 : PHONO
S605 : TUNER
S606 : VIDEO/AUX
S607 : MUTING
S608 : CD
SP SW Assembly
S401 : SPEAKERS ON - OFF



VR201 – VR210 : GRAPHIC EQUALIZER

IC201,Q201 – 210 : GRAPHIC EQUALIZER

10 kHz 3.3 kHz 1 kHz 330 Hz 100 Hz

IC601 : AMP CONTROL

Q602 : POWER ON RESET

Q603,604 : BUFFER AMP

Q605 : POWER SUPPLY

Q606 : LED DRIVE

Q709 – 711 : MUTING

Q601 : MUTING

IC203 : VOLUME MOTOR DRIVE

IC701 – 705 : LED DRIVER

IC 201	M5218PF
IC 203	TA7291S
IC 601	PDG025-Δ
IC 701 – IC 705	BA6144
Q201 – Q210	2SC1740SLN
Q601	RN1201
Q602,701–705,708	2SC2458 (2SC2603)
Q603,710	RN2201
Q604,711	RN1203
Q605	2SC3377
Q606	2SC1740S
Q 709	2SA1515
D601,619	AEL1065-A
D602 – D606	AEL1015-A
D607,608	AEL1030-A
D609 – D616	1SS252
D617	RD33ESB
D701	AEL1044-A
D702	S5566 (11E2)

S601 – S608	ASG-711
C601	ACH1070
VR201 – VR210	ACU1025
VR215	ACS1018
X601	ASS1025 (ASS1010)

Q701 – 705,708 BAND PASS FILTER

Q401,402 : OVER LOAD DET.

Q403,404 : DC DET.

Q405,406 : RELAY DRIVE

SP. SW ASSEMBLY

S401 : SUL8LXYS

S401(1/2) : SPEAKERS A
S401(2/2) : SPEAKERS B

PHONES

OUTPUT ASSEMBLY

SPEAKERS A

SPEAKERS B

CONTROL OUT

IC ASSEMBLY

IC 502 M5F7812L REGULATOR

CONNECTOR ASSEMBLY

TUNER
USE ONLY WITH MODEL TX-1092Z

J108	
1	AC I
2	REMOCON OUT
3	AC GND
4	+5.6V
5	+12V
6	TUNER L
7	GND
8	TUNER R

POWER TRANSFORMER T501 ATT1011

Q501 POWER ON/OFF SWITCH

IC501,503,0502 REGULATOR

AC POWER CORD ADG1031

AC 120V 60 Hz

UNSWITCHED 100W MAX

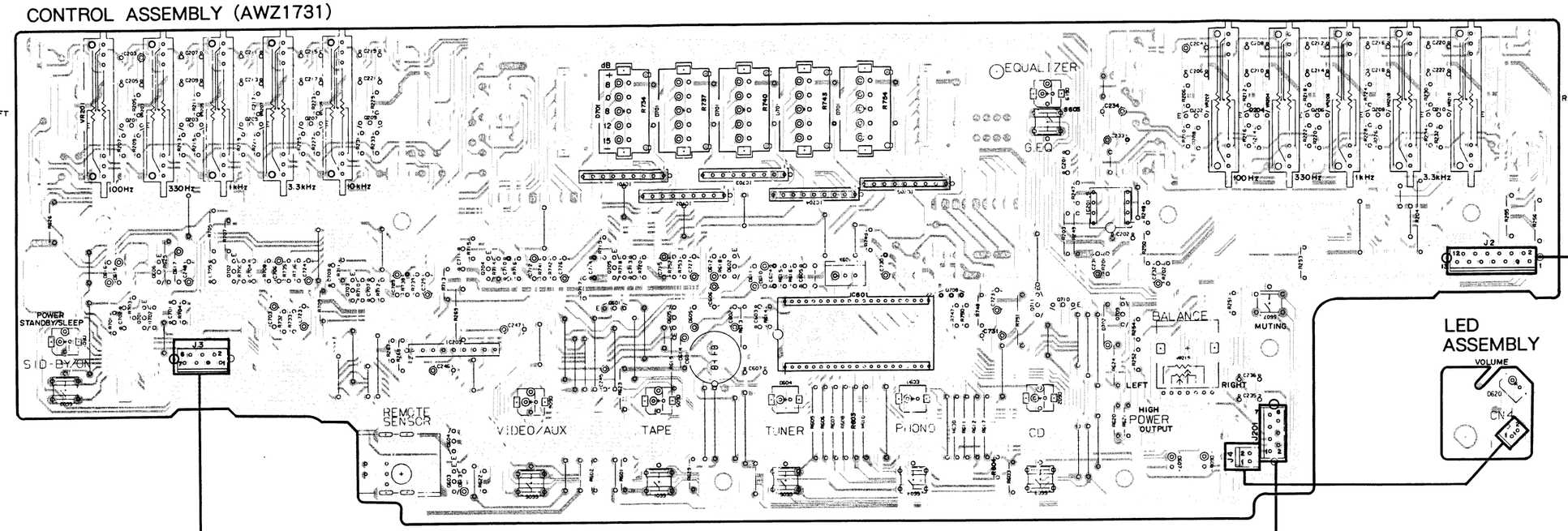
SWITCHED TOTAL 100W MAX

AKP-515

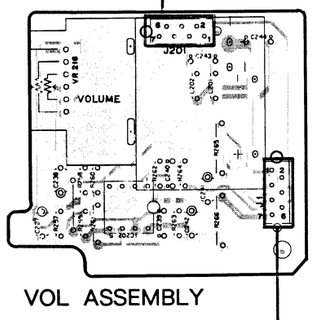
2,2 2SC3281
3,4 2SA1302

5. P.C. BOARDS CONNECTION DIAGRAM

CONTROL ASSEMBLY (AWZ1731)

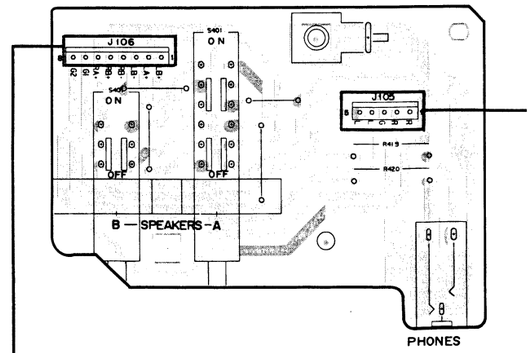


VR201 VR203 VR205 VR207 VR209
Q201 Q606 Q203 Q702 Q205 Q207 Q703 Q209
Q701
Q604 Q704
Q603
IC203
Q601
Q705
Q605 Q602
IC701 – IC705
IC601
Q708
VR202
VR215 VR204 VR206 VR208 VR210
Q710 Q709 Q202 Q204 Q206 Q208 Q210
IC201



VOL ASSEMBLY

SP SW ASSEMBLY



NOTE

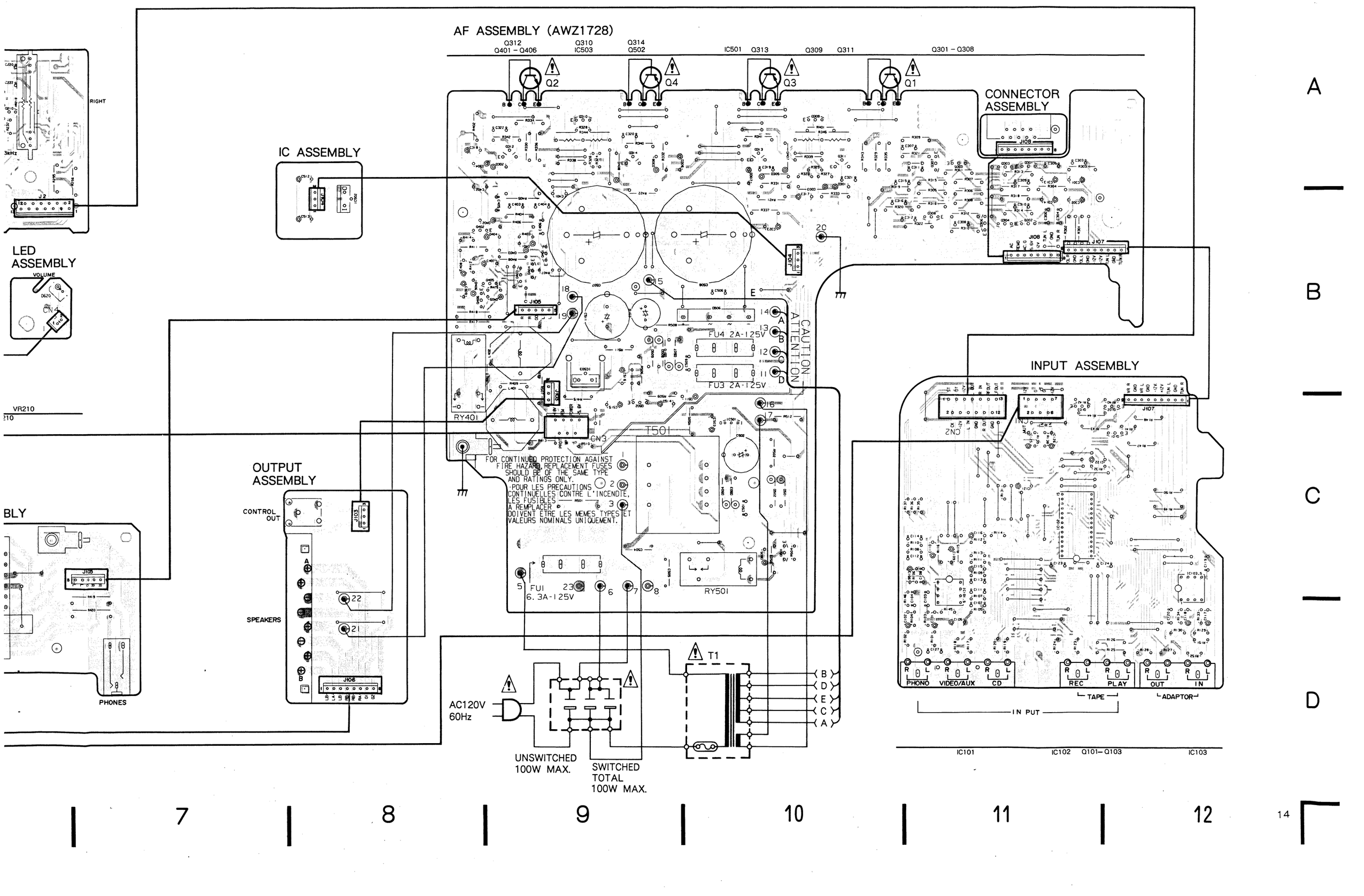
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 (E)	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513		Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with ◎ (double circles) shows negative terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.


AF ASSEMBLY (AWZ1728)
Q312
Q401 – Q406
Q310
IC503
Q314
Q502
IC501
Q313
Q309
Q311
Q301 – Q308
Q2
Q4
Q3
Q1
CONNECTOR ASSEMBLY
IC ASSEMBLY
LED ASSEMBLY
VOLUME
INPUT ASSEMBLY
OUTPUT ASSEMBLY
CONTROL OUT
SPEAKERS
PHONES
RIGHT
VR210
FU4 2A-125V
FU3 2A-125V
FU1 6.3A-125V
RY401
RY501
T501
T1
CAUTION ATTENTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
·POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDIE, LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT.
AC120V 60Hz
UNSWITCHED 100W MAX.
SWITCHED TOTAL 100W MAX.
PHONO
VIDEO/AUX
CD
REC
PLAY
TAPE
OUT
IN
ADAPTOR
IN PUT
IC101
IC102
Q101–Q103
IC103

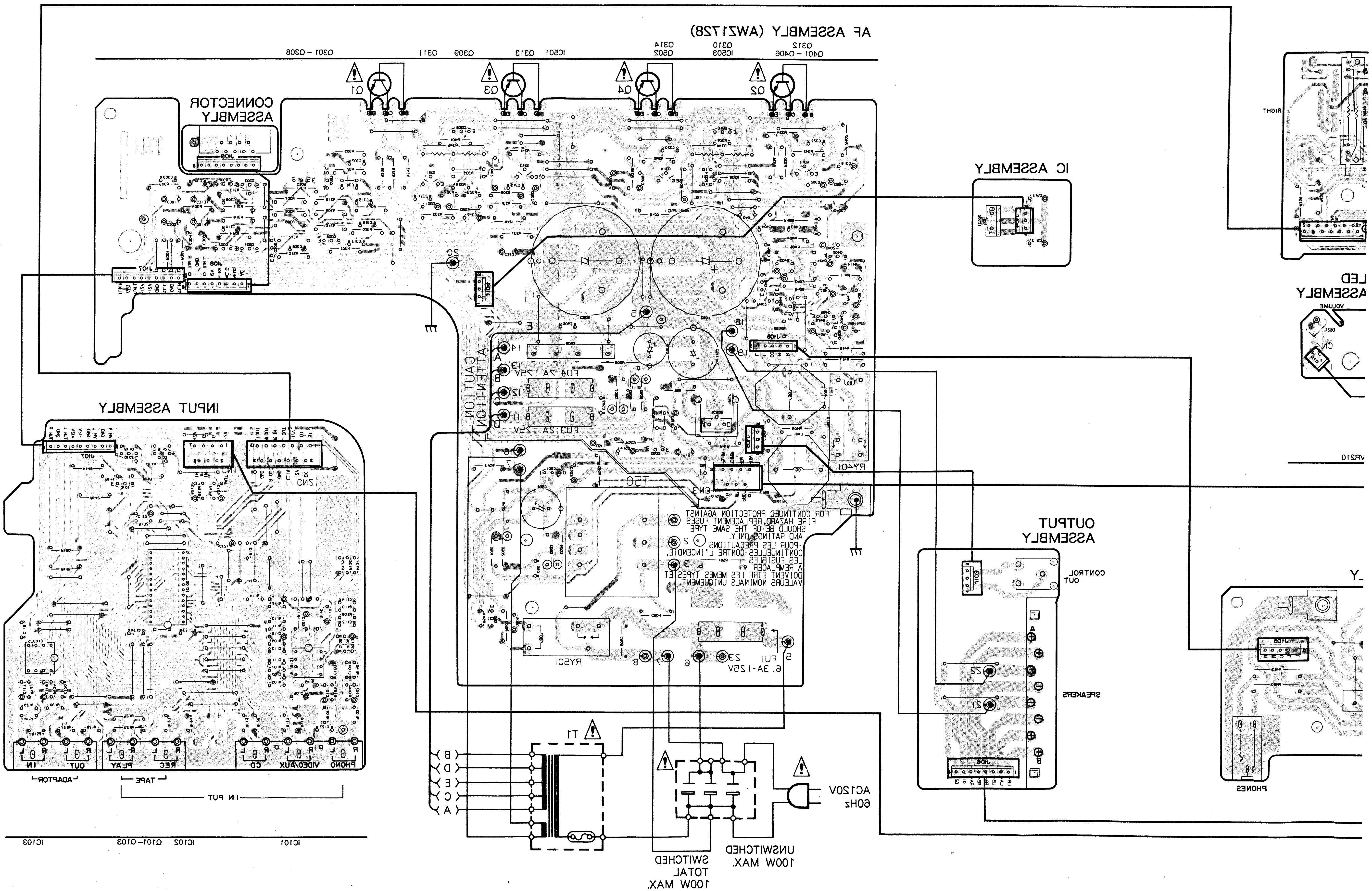
12 11 10 9 8 7

A

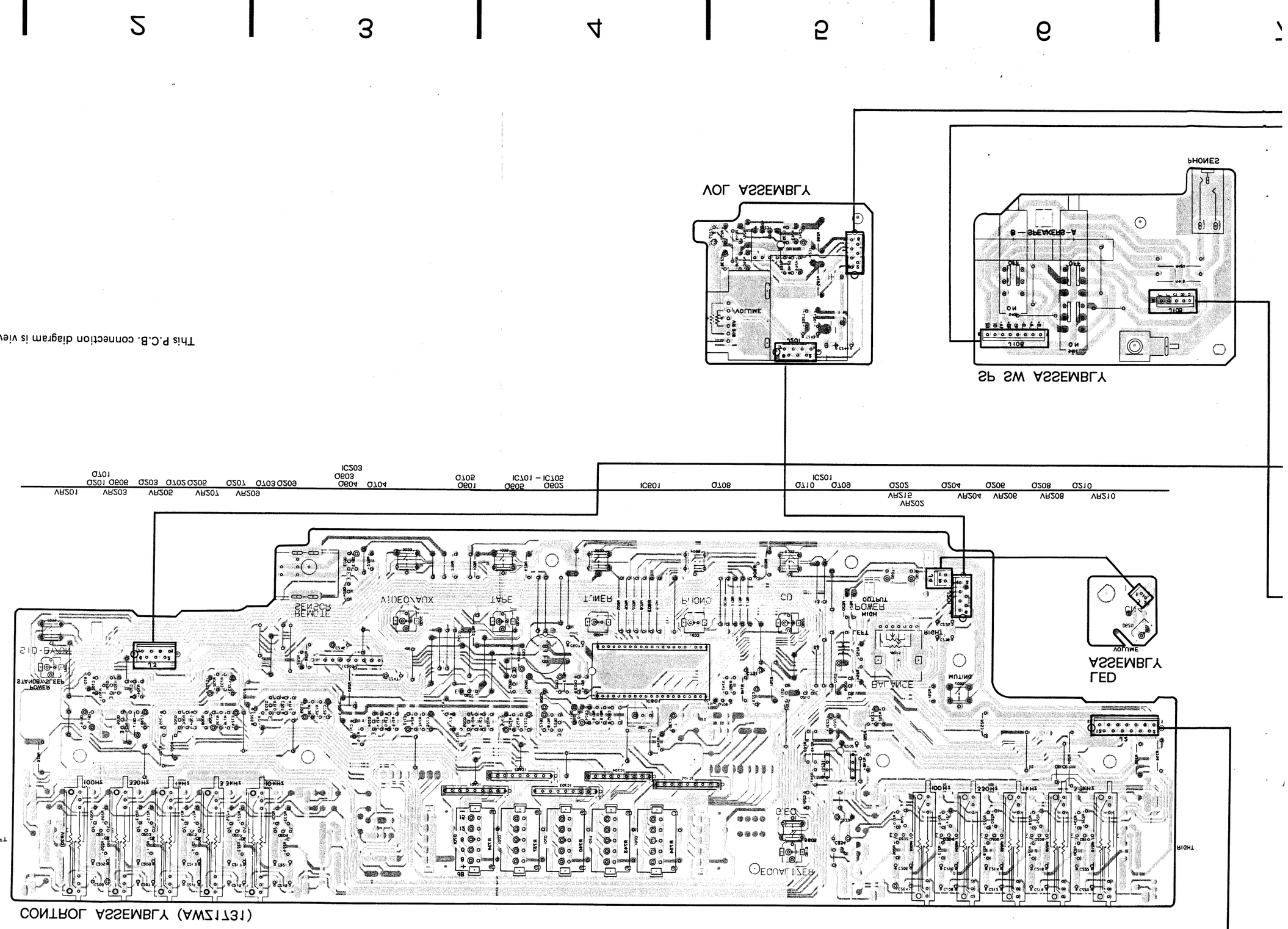
B

C

D


AF ASSEMBLY (AWZ1728)
Q301 – Q308
Q311
Q309
Q313
IC501
Q314
Q502
Q310
IC503
Q312
Q401 – Q406
Q1
Q3
Q4
Q2
CONNECTOR ASSEMBLY
J108
J107
IC ASSEMBLY
LED ASSEMBLY
VOLUME
RIGHT
VR210
CAUTION
ATTENTION
FU4 2A-125V
FU3 2A-125V
RY401
T501
CN3
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDIE, LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT.
RY501
FU1 6.3A-125V
INPUT ASSEMBLY
CN1
CN2
IN
OUT
ADAPTOR
PLAY
REC
TAPE
CD
VIDEO/AUX
PHONO
IN PUT
IC103
Q101–Q103
IC102
IC101
T1
AC120V 60Hz
SWITCHED TOTAL 100W MAX.
UNSWITCHED 100W MAX.
OUTPUT ASSEMBLY
CONTROL OUT
J103
SPEAKERS
J106
J105
PHONES

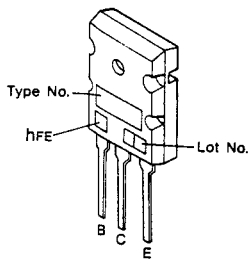
12 11 10 9 8 7



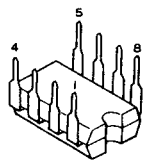
This P.C.B. connection diagram is viewed from the foil side.

External Appearance of Transistors and ICs

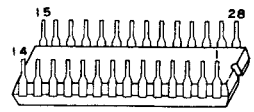
2SA1302
2SC3281



M5218P
M5218PF



TC9163N



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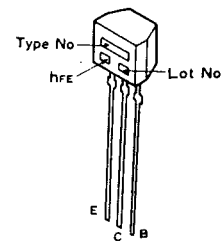

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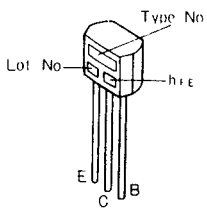
2SA2458
2SC2603



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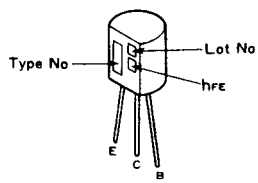
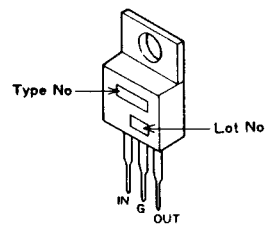
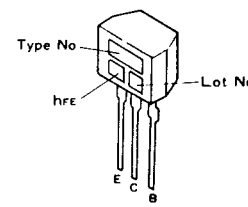
2SA970
2SC2240
2SC2705P



μPC78M12H



2SC1740S
2SC1740SLN



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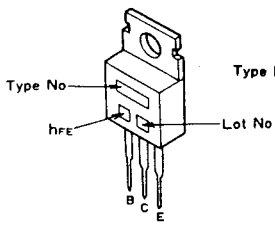

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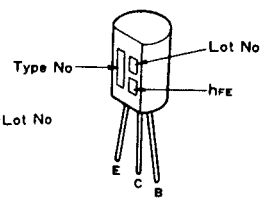
2SC1845



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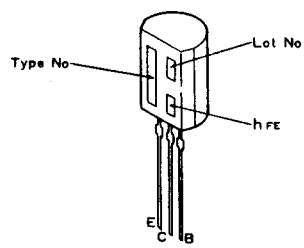
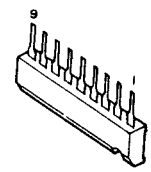
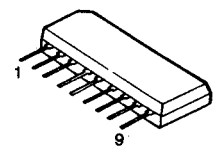


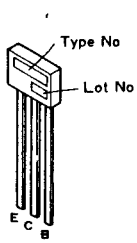
BA6144



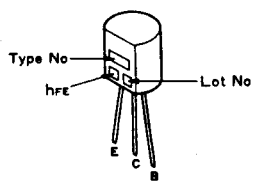
TA7291S



RN1201
RN1203
RN2201



2SA1515



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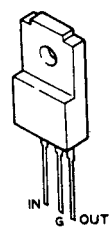

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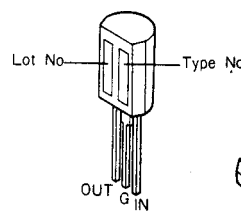

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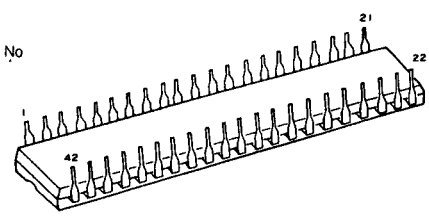


6. ELECTRICAL PARTS LIST

NOTES :
- Parts without part number cannot be supplied.
- Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5 %, and K = 10 %).
- 560 Ω → 56 × 10^1 → 561 ..... RD1/4PS 5 6 1 J
- 47k Ω → 47 × 10^3 → 473 ..... RD1/4PS 4 7 3 J
- 0.5 Ω → 0R5 ..... RN2H 0 R 5 K
- 1 Ω → 010 ..... RS1P 0 1 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
- 5.62k Ω → 562 × 10^1 → 5621 ..... RN1/4SR 5 6 2 1 F

Miscellaneous Parts

Mark	Symbol & Description	Part No.
	INPUT assembly	
	OUTPUT assembly	
	SP SW assembly	
	IC assembly	
	AF assembly	AWZ1728
	CONNECTOR assembly	
	VOL assembly	
	CONTROL assembly	AWZ1731
	LED assembly	

OTHERS

Mark	Symbol & Description	Part No.
★★	Q3,Q4	2SA1302
★★	Q1,Q2	2SC3281
⚠ ★	T1 Power transformer	ATS1075
⚠★★	FU3,FU4 Fuse (2A/125V)	AEK-122
⚠★★	FU1 Fuse (6.3A/125V)	AEK-309
⚠	AC OUTLETS (3P)	AKP-515
⚠	AC power cord	ADG1031

IC Assembly

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
★★	IC502	M5F7812L

CAPACITORS

Mark	Symbol & Description	Part No.
	C513	CEHAQ010M50
	C512	CEHAQ100M25

INPUT Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101	M5218P
★★	IC103	M5218PF
★★	IC102	TC9163N
★★	Q103	2SA1048 (2SA1115)
★★	Q101,Q102	2SC2878

CAPACITORS

Mark	Symbol & Description	Part No.
	C107,C108	CCMSL101J50
	C101,C102,C121,C122	CEAS100M25
	C115 – C118,C125,C126	CEAS2R2M50
	C105,C106,C109,C110	CEAS470M16
	C111,C112	CKCYB222K50 (CKDYB222K50)
	C113,C114	CKCYB822K50 (CKDYB822K50)
	C123,C124,C127	CKCYX104M25 (CKDYX104M25)
	C119,C120	CKMYB221K50
	C103,C104	CKMYB391K50

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R115,R116	RD1/4PMF331J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	4P Pin jack	AKB1007
	6P Pin jack	AKB1024

CONTROL Assembly (AWZ1731)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC701 – IC705	BA6144
★★	IC201	M5218PF
★★	IC601	PDG025-A
★★	IC203	TA7291S
★★	Q601	RN1201
★★	Q604,Q711	RN1203
★★	Q603,Q710	RN2201
★★	Q709	2SA1515
★★	Q606	2SC1740S
★★	Q201 – Q210	2SC1740SLN
★★	Q602,Q701 – Q705,Q708	2SC2458 (2SC2603)
★★	Q605	2SC3377
★	D602 – D606	AEL1015
★	D607,D608	AEL1030
★	D701	AEL1044
★	D601,D619	AEL1065
★	D617	RD33ESB
★	D702	S5566 (11E2)
★	D609 – D616	1SS252

SWITCHES

Mark	Symbol & Description	Part No.
★★	S601 – S608 Tact switch (TAPE, STANDBY/ON, EQUALIZER, PHONO, TUNER, VIDEO/AUX, MUTING, CD)	ASG-711

CAPACITORS

Mark	Symbol & Description	Part No.
	C601 (47000/5V)	ACH1070
	C201,C202,C235,C236	CCMSL101J50
	C703,C706,C709,C712,C715	CEASR33M50
	C729	CEAS0R1M50
	C231,C232,C246,C248, C723 – C727,C731	CEAS100M25
	C602	CEAS101M10
	C245	CEAS101M16
	C606	CEAS330M16
	C233,C234,C730	CEAS470M16
	C247	CEAS470M25
	C203,C204	CEJAR15M50
	C207,C208	CFTXA393J50
	C710,C711	CGMYB222M50
	C215,C216	CGMYX392M25
	C209,C210,C707,C708	CGMYX682M25
	C213,C214	CKCYB222K50 (CKDYB222K50)
	C603 – C605	CKCYX104M25 (CKDYX104M25)
	C211,C212	CKCYX123M25 (CKDYX123M25)
	C704,C705	CKCYX153M25 (CKDYX153M25)
	C205,C206	CKCYX183M25 (CKDYX183M25)
	C701,C702	CKCYX473M25 (CKDYX473M25)
	C607	CKMYB102K50
	C219,C220	CKMYB122K50
	C221,C222	CKMYB221K50
	C217,C218	CKMYB681K50
	C713,C714	CKMYB821K50

RESISTORS

Mark	Symbol & Description	Part No.
★	VR215 Variable resistor (BALANCE, 250kΩ)	ACS1018
★	VR201 – VR210 Slide variable resistor (100kΩ) (GRAPHIC EQUALIZER)	ACU1025
⚠	R623	RD1/2PMF470J
⚠	R734,R737,R740,R743,R754	RD1/2PMF680J
⚠	R626	RD1/4PMF102J
⚠	R255,R256,R751	RFA1/4PS470J
⚠	R269	RS1PMF470J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	X601 Ceramic resonator	ASS1025 (ASS1010)
	REMOTE SENSOR	AXX1005

SP SW Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S401 Push switch (SPEAKERS)	SUL8LXYS

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R419,R420	RS2LMF331J

OTHERS

Mark	Symbol & Description	Part No.
	Phone jack (PHONES)	AKN1002

AF Assembly (AWZ1728)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC501	M5278L56
★★	IC503	μPC78M12H
★★	Q405	2SA1115
★★	Q313,Q314	2SA968
★★	Q301 – Q304	2SA970
★★	Q502	2SB560
★★	Q406	2SC1845
★★	Q311,C312	2SC2238
★★	Q305,Q306,Q401,Q402	2SC2240
★★	Q403,Q404,Q501	2SC2458 (2SC2603)
★★	Q309,Q310	2SC2603
★★	Q307,Q308	2SC2705P
★	D506	D5SB20F
★	D303,D304,D307,D308	HZS4BLL
★	D405	HZS6B1L
★	D511	RD13ESB1
★	D407,D408	RD2.7ESB1
★	D501 – D504,D507 – D510	S5566 (11E2)
★	D301,D302,D305,D306, D401 – D404,D406,D505	1SS252

RELAYS

Mark	Symbol & Description	Part No.
★★	RY401 Relay	ASR-112
⚠★★	RY501 Relay	ASR1012 (ASR1013)

COILS AND TRANSFORMER

Mark	Symbol & Description	Part No.
	L401,L402 AF choke coil (0.7μH)	ATH1004
⚠ ★	T501 Power transformer	ATT1011

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C504,C505 (0.01/AC125V)	ACG1003
	C506 (0.01/150V)	ACG1005
⚠	C507,C508 (6800/71V)	ACH1084
	C311,C312	CCCSL020C500 (CCDSL020C500)
	C315,C316	CCCSL060D500 (CCDSL060D500)
	C319 – C322	CCCSL101K500 (CCDSL101K500)
	C303,C304	CCMSL101J50
	C305,C306	CCMSL470J50
	C401,C402	CEANP010M50
	C409	CEAS010M100
	C323	CEAS100M100
	C301,C302	CEAS100M25
	C503	CEAS101M10
	C502	CEAS102M25
	C511	CEAS222M25
	C313,C314,C514 – C516	CEAS470M16
	C317,C318	CEAS470M50
	C510	CEAS471M25
	C407	CEAS471M6
	C408	CEAS6R8M50
	C403 – C406	CFTXA823J50
	C501,C509	CKCYF103Z50 (CKDYF103Z50)
	C307,C308	CKMYB102K50
	C309,C310	CKMYB152K50

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R501 Solid (2.2M,1/2W)	ACN-208
⚠	R344,R345 Wire wound (0.27,5W × 2)	ACN1018
⚠	R502	RD1/2PMFL820J
⚠	R409,R410,R511	RD1/2PMF100J
⚠	R421,R422,R503	RD1/4PMF101J
⚠	R331 – R334	RD1/4PMF221J
⚠	R401,R402	RD1/4PMF222J
⚠	R337	RD1/4PMF4R7J
⚠	R507	RFA1/4PS100J
⚠	R321,R322,R411	RFA1/4PS101J
⚠	R506	RFA1/4PS220J
⚠	R338,R339	RFA1/4PS221J
⚠	R340 – R343	RFA1/4PS4R7J
⚠	R405,R406	RS1PMF100J
⚠	R417,R418	RS1PMF102J
⚠	R508	RS1PMF2R2J
	R329,R330,R335,R336	RD1/2PM□□□J
	R301 – R320,R509,R512	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

OUTPUT Assembly

OTHERS

Mark	Symbol & Description	Part No.
	8P Terminal (SPEAKERS A, B)	AKE-111
	Mini jack (CONTROL)	AKN-207

VOL Assembly

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
★★	IC202	M5218PF

COILS

Mark	Symbol & Description	Part No.
	L201,L202	LAU100K

CAPACITORS

Mark	Symbol & Description	Part No.
	C239,C240	CCMSL101J50
	C237,C238	CEAS2R2M50
	C241,C242	CEAS470M16
	C243,C244	CKCYX473M25 (CKDYX473M25)

RESISTORS

Mark	Symbol & Description	Part No.
★	VR216 Variable resistor with motor (VOLUME, 100k)	ACX1011
⚠	R265,R266	RD1/4PMF221J
	Other resistors	RD1/8PM□□□J

LED Assembly

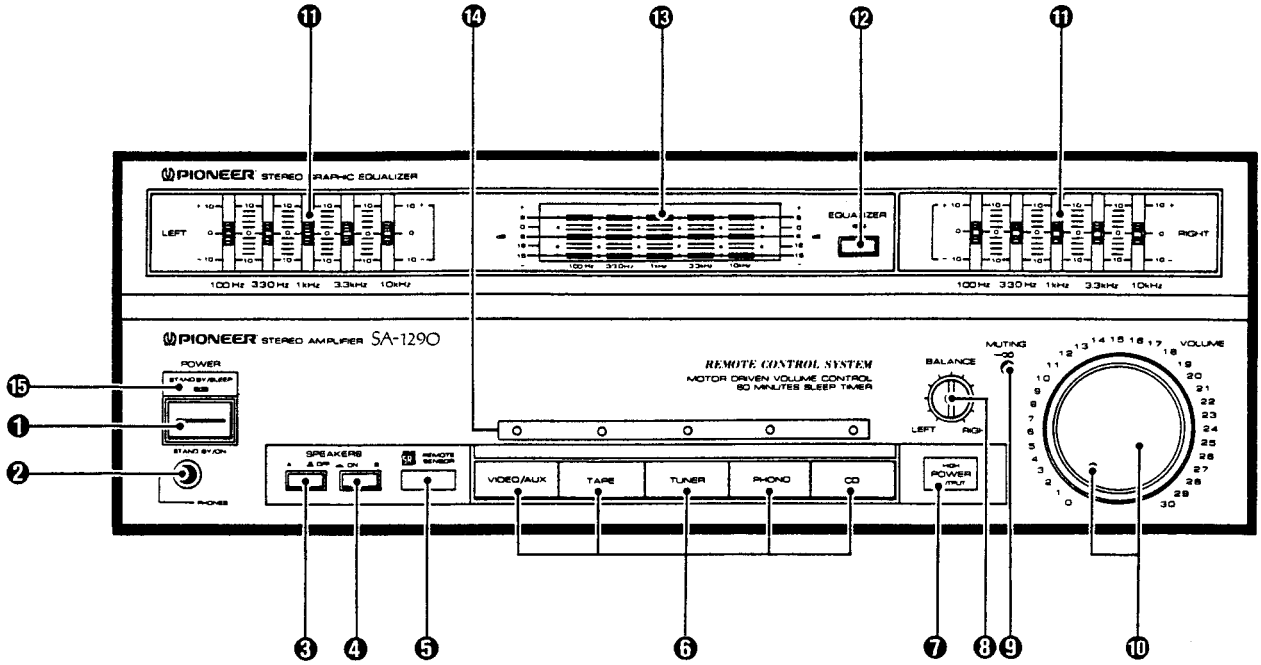
SEMICONDUCTOR

Mark	Symbol & Description	Part No.
★	D620 (VOLUME)	AEL1040

CONNECTOR Assembly

There is no parts supply for the connector assembly.

7. PANEL FACILITIES



❶ POWER (STANDBY/ON) switch

- The accessory remote control unit can also be used to operate STANDBY/ON function of this switch.
- The POWER switch selects the transformer secondary even in STANDBY position. The unit circuitry will work as long as the power cord is connected to a power outlet.
- When not using the unit for a long period, disconnected the power cord.

❷ PHONES jack

When using headphones, insert their plug into this jack.

❸ SPEAKERS A ON/OFF switch

Use this switch to listen to the speaker systems connected to the SPEAKERS A terminals.
[ON] — Depressed position: Sound is heard from the speaker systems.
[OFF] — Released position: No sound is heard from the speaker system. Set to this position when listening with headphones.

❹ SPEAKERS B ON/OFF switch

Use this switch to listen to the speaker systems connected to the SPEAKERS B terminals.
[ON] — Depressed position: Sound is heard from the speaker systems.
[OFF] — Released position: No sound is heard from the speaker system. Set to this position when listening with headphones.

❺ REMOTE SENSOR window

❻ FUNCTION switches

Use to select playback source.
[CD] — Press when listening to compact disc playback with a CD player.
[PHONO] — Press when listening to record playback on a turntable.
[TUNER] — Press when listening to AM or FM broadcasts with a tuner.
[TAPE] — Press when listening to tape playback with a cassette tape deck.
[VIDEO/AUX] — Press when listening to programs from a component connected to the VIDEO/AUX terminals.
Selection can also be performed with the accessory remote control unit.

❼ POWER indicator

Flashes rapidly for about 5 seconds after the power is turned on until sound is produced, and flashes slowly in the mute mode.

❽ BALANCE control

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the LEFT position, and if the left side is louder, turn toward the RIGHT position.

⑨ MUTING switch

Use to temporarily cut out all audio signals.
When the function is ON, sounds will be cut off. (POWER indicator will flash)
When turned OFF, the sound returns to its previous level. The muting ON/OFF function can also be operated by the accessory remote control unit.

⑩ VOLUME control/indicator

Use to adjust sound volume.
When operated by remote control, this control will rotate with the knob indicator flashing.
Adjustment can also be performed with the accessory remote control unit.

⑪ GRAPHIC EQUALIZER controls

These controls can be used to emphasize or de-emphasize sounds in the frequency bands 100Hz, 330Hz, 1kHz, 3.3kHz, and 10kHz, thus allowing you to control tone quality. The center position of each control is the normal (flat) setting. When raised above the center position, the control frequency band is emphasized; when lowered, the band is de-emphasized.

⑫ EQUALIZER ON/OFF switch/indicator

When this switch is pressed, the equalizer indicator lights and its functions become opetative. When pressed once again, the indicator goes out and its functions are turned OFF. Use this switch in the following manner:

[ON] : When using the equalizer to add sound compensation while performing program sources, and playing back and/or recording results.

[OFF] : When not using the equalizer, but playing back or recording program sources without compensation.

⑬ SPECTRUM ANALYZER

This display shows the condition of sound signals compensated with the graphic equalizer controls.
(Because the level indicator is connected to the input side, the indication does not change when the VOLUME control is turned.)

⑭ FUNCTION indicators

These indicators light to show the setting of the FUNCTION switches.

⑮ STANDBY/SLEEP indicator

- This indicator flashes when the accessory remote control unit is used to turn the SLEEP key. When the SLEEP key is ON, the indicator will flash. (Initially it will flash slowly, then gradually become faster.)
  Sixty minutes after the sleep timer is turned ON, the power switch will be turned to STANDBY automatically.
- This indicator lights when the accessory remote control unit or this unit is used to turn the POWER key.

This component features a built-in microcomputer which will recall the last-set positions of the following switches for up to about several days after the power cord is disconnected. As a result, when the power is turned ON again, the previously set positions will be recalled automatically:

- FUNCTION switch
- MUTING switch
- EQUALIZER ON/OFF switch

When the unit is not used for more than several days, the memorized setting positions will be erased, and returned to the following settings:

- MUTING switch ..... OFF
- FUNCTION switches ..... TUNER
- EQUALIZER ON/OFF switch ..... OFF

8. SPECIFICATIONS

[SA-1290]

Amplifier Section

Continuous average power output is 110 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.05% total harmonic distortion.

Input (Sensitivity/Impedance)
- PHONO ..... 2.5 mV/50 kΩ
- CD, VIDEO/AUX, TUNER, TAPE PLAY, ADAPTOR IN ..... 150 mV/50 kΩ

Phono Overload Level (T.H.D. 0.1%, 1 kHz) 100mV

Output (Level/Impedance)
- TAPE REC, ADAPTOR OUT ..... 150 mV/2.2 kΩ

Frequency Response
- PHONO 20 Hz to 20 kHz (RIAA equalization) .. ±1 dB
- CD, VIDEO/AUX, TUNER, TAPE PLAY, ADAPTOR IN
  10 Hz to 50 kHz ..... ±3 dB

Graphic equalizer
- 100 Hz ..... ±10 dB
- 330 Hz ..... ±10 dB
- 1 kHz ..... ±10 dB
- 3.3 kHz ..... ±10 dB
- 10 kHz ..... ±10 dB

Signal-to-Noise Ratio (IHF, short circuited, A network)
- PHONO ..... 72 dB
- CD, VIDEO/AUX, TUNER, TAPE PLAY, ADAPTOR IN ..... 96 dB

Miscellaneous

Power Requirements ..... AC 120 V, 60 Hz

Power Consumption ..... 380 W (UL), 500 VA (CSA)

Dimensions ..... 420 (W) x 145 (H) x 320 (D) mm
16-1/2 (W) x 5-3/4 (H) x 12-5/8 (D) in

Weight (without package) ..... 8.9 kg (19 lb 10 oz)

Furnished Parts

Remote control unit 1

Batteries 2

Operating Instructions
- (Stereo amplifier) 1
- (Remote control unit) 1

NOTE:

- *Specifications and design subject to possible modification without notice due to improvements.*
- **Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Claims for Amplifier.*

INFORMATION TO USER [FOR U.S. MODEL]

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate this equipment with respect to the receiver
- move this equipment away from the receiver
- plug this equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV Interference Problems".
This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

The above instructions apply only to units which will be operated in the United States.